INTRODUCTION - WATER RESOUCES

The Town of Williamsport owns a water distribution system serving customers within the corporate limits. The Town does not have its own source of water nor does it treat the water which it purchases. Williamsport is served by the public water system owned and operated by the City of Hagerstown, Maryland. The Hagerstown Water Department is a public utility owned and operated by the City under the direction of the Mayor and Council. The Hagerstown system provides the entire water supply for the towns of Funkstown, Williamsport and some of the water for Smithsburg. The Town of Williamsport although it purchases water retains the responsibility for the operation and maintenance of the distribution system such as pumps, lines and water services. The Hagerstown systems also serves large industrial and institutional water users, the Maryland Correctional Institution, and Washington County Hospital.

The Potomac River near Williamsport is the source of supply from which water is currently drawn each day for filtration at the R.C. Wilson Water Treatment Plant. The amounts drawn and treated are set forth in the City of Hagerstown's Comprehensive Plan and water records and studies which are incorporated herein by reference pursuant to the provisions of Article 66B, and are adopted by the Town of Williamsport insofar as some are applicable to the Town.

Williamsport does not have formal or continuing programs for water conservation. In the event of a need to conserve water or any other need to advise customers with respect to water use, the Town government would use media campaigns on local radio and newspapers.

EMERGENCY SOURCE OF WATER

The Town of Williamsport has a water tank (tower) with a 300,000 gallon capacity which is currently in place. However, at this time the facility is in need of minor repairs which will be funded and financed by the Town to place same in an operative mode.

The tank is used for emergency purposes, i.e., in the event of failure of the Hagerstown Water System and/or fire and other types of emergencies.

WATER SERVICE

As indicated, the Town of Williamsport does not have a water treatment plant nor does it have the capacity or financial resources at this juncture to establish such a facility. In view of this fact, the Town does hereby incorporate by reference those portions of the City of Hagerstown, Maryland's Water Resources Element contained in the Comprehensive Plan adopted in 2008 and as amended on September 28, 2010, from time to time, insofar as same is applicable to the operation and maintenance and future growth of the Williamsport Water System. It must be noted that the Water Resources Element of the City of Hagerstown establishes policies to guide

the provision of future wastewater and water service to and management of non-point source nutrient loading from the City and its medium range growth area (MRGA). It also deals with stormwater management in essence.

At the time of the amendment of the City's Water Resources Element, Washington County and the City were working in conjunction evaluating options to complete county wide water resource requirements. Both have been working closely to achieve common water resource goals. The Water Resources Element adopted in 2010 by the City replaces the Water/Waste Water Element of the 2008 Comprehensive Plan.

It must be noted that the wastewater and stormwater portions of the Plan are not entirely applicable to the Town of Williamsport but by virtue of the fact that Hagerstown is the Town's only source of water these policies and practices peripherally affect the Town.

The Town does not have a wastewater program other than its agreement with the County. The Wastewater Treatment Element of this Plan is covered in Chapter 14 of the Comprehensive Plan.

It must also be noted that the stormwater management for the Town is in essence controlled by the County pursuant to the provisions of the Stormwater Management Ordinance as adopted by the County and also enacted as an Ordinance by the Town. The County administers the stormwater management in the Town pursuant to these Ordinances and Agreements. This is addressed later in this document.

However, as indicated all of these various regulatory controls and policies have an impact on the Town of Williamsport indirectly.

As far as the immediate or near future growth opportunities within the corporate limits is concerned, they are somewhat minimal. In the event that the educational facilities increase appreciably, then there would be some effect. If any annexations are considered in the future by the Town, the concerns would be addressed in accordance with the annexation policies of the Town and availability of utilities and other services. The following is a portion of the City of Hagerstown Water Resources Element that is adopted by the Town and considered applicable and salient. All information was provided by the Planning Commission for the City of Hagerstown. As indicated, there may be peripheral matters contained in the Water Resources Element that are incorporated by reference insofar as same may be applicable. If there is any conflict between the Town policies and the City, then of course the Town policies will govern and prevail in any ultimate reviews, analysis and decisions.

APPLICABLE CITY OF HAGERSTOWN WATER RESOURCES ELEMENT Goals for Water Service

1. Provide a sustainable uninterrupted potable water supply to all customers served by the Hagerstown Water System.

2. Identify and implement viable projects to protect and/or enhance Hagerstown's water supply.

WATER SERVICE ISSUES ADDRESSED BY THIS ELEMENT

1. Recent growth in Hagerstown and the surrounding communities has increased water demand requiring an evaluation of and potential upgrades to the City's water treatment and distribution infrastructure.

WATER SYSTEM OVERVIEW

The City of Hagerstown is the primary provider of potable water to all residential, commercial and industrial customers in the Hagerstown UGA, as well as some customers outside the UGA, particularly in the Martins Crossroads area. Hagerstown also provides potable water to the Towns of Smithsburg, Williamsport, and Funkstown which own, operate, and maintain their own distribution systems. The water service area as of 2007 (excluding Smithsburg), is shown in Figure 4-1.*

The City owns and operates two potable water treatment plans: the R.C. Willson Plant (WTP) and the W.M. Breichner Plant (BTP). The WTP draws its water from the Potomac River in Williamsport, and is the City's main source of water. WTP has a maximum treatment capacity of 20 MGD, with a permitted appropriation for surface water from the Potomac River of 15 MGD. However, the WTP's transmission lines can only accommodate 13.5 MGD. The BTP draws its water from the Edgemont Reservoir near Smithsburg, and is primarily used to supplement production during high demand periods and when systems maintenance reduces available supplies from the WTP. The BTP has a maximum treatment capacity of 4.5 MGD and a permitted appropriation for surface water from the Edgemont Reservoir of 700,000 gpd.

*Note: The Town of Williamsport requires annexation and preannexation agreements for water service outside of the corporate limits. The policy is not to service outside. However, this is only applicable to properties adjacent to the Town boundary.

The City's water distribution system is comprised of approximately 400 miles of water mains. Currently, there are over 2,000 fire hydrants throughout the distribution system, used for both fire suppression and system maintenance.

In 2005, Hagerstown produced and delivered 11 MGD of water, almost all of which was drawn from the Potomac River. Of that total, 18 percent (approximately 1.98 MGD) is "unaccounted for" or system water loss - water that is distributed but not used at a metered location. This is in excess of the 10 percent system water loss benchmark established by MDE policies.

The City does not allow new water connections outside of the 2008 Annexation Policy Area, except in specific circumstances set forth in the City's Annexation Policy and its Water and Sewer Policy (see the Recent Relevant Policies section of the Plan Introduction). These exceptions include cases where the non-municipal water or wastewater system does not meet health and safety standards - such as failing septic systems, cases where service extension would improve system-wide operations or efficiency, cases where pre-existing water and/or wastewater agreements and pre-annexation agreements commit service connections or where the Mayor and council determine that extension of services would be important for significant economic development opportunities for the City.

ANNEXATION AND WATER SERVICE

As described in the Recent Relevant Policies section of the Plan Introduction, the 2008 Annexation Policy defines the relationship between annexation and the provision of water service. In order to receive new or expanded water service, a property owner must agree to be annexed into the City. Properties that cannot be annexed because they are not adjacent to the City boundaries must sign a pre-annexation agreement. Some of these parcels are shown in Figure 2-4.

PROJECTED WATER DEMAND AND CAPACITY

The Hagerstown water system has adequate capacity to meet current water demand: the combined water treatment appropriations for the WTP and BTP is 15.7 MGD, while peak daily water demand is 13 MGD during summer months (July-September). Average daily demand is 11 MGD.

The demands for service on the Hagerstown water supply are anticipated to increase as the growth of nearby towns creates additional water demand. Exhibit 47 shows the permit and usage activity for the three

anticipates that the Town of Smithsburg will request additional water allocations (more than doubling the Town's current allocation) in order to accommodate the growth projections in their 2008 Comprehensive Plan.

Both Funkstown and Williamsport have experienced minimal growth in recent years (the average daily water usage in 2007 was approximately 60% of permitted withdrawal) and are not anticipating substantial growth in the near future. This suggests that existing water permit allocations from Hagerstown to these two towns should be sufficient for the life of this Plan.

Exhibit 47

Existing and Projected Water Demand from Towns
All units in EDU (except where specified)

Towns	Water Agreement Permit	Average Daily Usage in 2007	Remaining Unused Allocation in Permit	Anticipated Request for Permit Increase*	Total Water Demand*
Funkstown	680	415	265	0	680
Smithsburg	1,315	1,205	110	1,700	3,015
Williamsport	1,695	1,015	680	0	1,695
TOTAL	3,690	2,635	1,055	1,700	5,390
TOTAL (IN MGD)	.738	.527	.211	.34	1.078

^{*} Note: Anticipated permit increase requests and total water demand are both through 2028.

Prior to the adoption of the 2008 Comprehensive Plan, the City committed water service to a number of development projects outside the MRGA while administering the Annexation Policy. As of December 31,

2007, outstanding commitments remain for approximately 1,690 dwelling units (338,000 gpd) and approximately 22 EDU's (4,407 gpd) of non-residential development. Detail on these projects is provided in the Appendix. As of August 2008, all but one of the residential developments on this list had an adequacy or mitigation program approval under the C County Adequate Public Facilities Ordinance, permitting construction to begin the near future as the strength of the housing market permits.

While the Plan recommends that no additional new service be provided beyond the MRGA before 2028, a possible exception is identified for employment centers in the County's economic development target areas at the Airport and Friendship Technology Park (I-70 at MD 632). If the City and the County determine that the provision of water service is critical for projects in the target areas and therefore adopt special service agreements for these areas, the anticipated demand for water service from the undeveloped land in the two target areas, as of August 2008, is approximately 175 EDU's (350 vacant acres at Friendship and 100 vacant acres at the Airport with an estimate usage of 3900 gpd or 19.5 EDU's per 50 acre project).

Projected (2028) Development and Water Supply

	All units in EDU (except where specified)	Projected Growth
1.	Existing peak water demand ¹⁵	65,000
2.	New residential demand (housing units) through 2028	6,605
3.	New non-residential demand (EDU) ¹⁶ through 2028	2,202
4.	Increased water permit requests by Towns ¹⁷	2,755
5.	Water demand from LRGA Properties with	
	Annexation Policy Approvals ¹⁸	<u>856</u>
6.	Total Future (2028) Demand (1+2+3+4)	77,418
<u>7.</u>	Total Water Supply 19	78,500
8.	Net Unused Capacity (6-5), 2028	1,082
	Net Unused Capacity (in MGD), 2028	0.2

- Recent amendments to the Safe Drinking Water Act could necessitate modifications to the treatment and distribution system (including the Willson and Breichner plants) to address by-projects of the chlorination process.
- Removal of pollutants from the raw water creates wastewater that has to meet Clean Water Act discharge requirements. The wastewater lagoons at the Willson Plant have to be upgraded to meet these standards, but it is likely that the wastewater lagoons at the Breichner Plan will also have to be upgraded.
- The Hagerstown water system currently provides water to approximately 88,000 customers and is classified as a medium system by Maryland Department of the Environment. Based on the projections in this Comprehensive Plan, it is anticipated that Hagerstown will be classified as a large system (servicing 100,000 or more customers) by 2028, if not sooner.

¹⁶ Non-residential demand is assumed to be one-quarter of total water demand.

¹⁵ Existing average daily demand is 13 MGD, at 200 gpd per EDU.

¹⁷ Anticipated new demand from three Towns with water permits. Combines unused existing permit allocations plus anticipated permit increase requests as shown in Exhibit 47.

Total water commitments outside MRGA from Annexation Policy approvals predating April 2008 are 1,712 EDU. Line 5 assumes that half of these commitments will be activated by 2028.

¹⁹ Existing supply is 15.7 MGD, at 200 gpd per EDU.

However other factors indicate the need for additional water sources and upgraded treatment and distribution facilities to serve projected growth. These factors include:

- Water demand during summer months (July September) peaks at 13 MGD, effectively reducing the amount of water available to serve future growth.
- The Edgemont Reservoir is eutrophic,²⁰ making its raw water difficult to treat during summer months. The BTP is not a viable water source during the summer.
- The Hagerstown treatment and distribution system was constructed in the late 1920's, and is aging as shown by the high system water loss figure. The system needs to be upgraded to meet existing demand and future development.
- Recent amendments to the Safe Drinking Water Act could necessitate modifications to the treatment and distribution system (including the WTP and BTP plants) to address by-products of the chlorination process.
- Treatment of raw water supplies creates wastewater that has to meet Clean Water Act discharge requirements. The wastewater lagoons at the WTP have to be upgraded to meet these standards, and it is also likely that the upgrades will be required for the wastewater lagoons at the BTP.
- The Hagerstown water system currently provides water to approximately 88,000 customers and is classified as a medium system by Maryland Department of the Environment. Based on the projections in this Comprehensive Plan, it is anticipated that Hagerstown will be classified as a large system (serving 100,000 or more customers) by 2028, if not sooner. Large water systems are subject to additional monitoring requirements and accelerated schedules for regulatory compliance.
- As the City accommodates the growth demands of Smithsburg and explores the provision of water service to other towns with water deficiencies in our region, the demands on the Hagerstown water supply could further increase.

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This term describes a body of water that typically has high concentration of nutrients, resulting in water treatment challenges.

POTENTIAL ULTIMATE WATER DEMAND AND CAPACITY

While existing water supplies are adequate to serve some projected development, they are not adequate to serve the total potential development (i.e., "buildout") in the City and MRGA. Exhibit 49 shows a potential deficit of approximately 16,237 EDU (or 3.2 MGD). In addition, the Infrastructure Commission report shows a deficit of more than 27,000 EDUs throughout the UGA (including the City, MRGA, and LRGA). Buildout would not occur until well beyond 2028 (if at all). However, it is important to highlight this imbalance so that Washington County - whose zoning regulations govern the MRGA - can us its own WRE to evaluate and, if necessary, alter land use policies in the MRGA.

CONSIDERATIONS FOR ADDRESSING LONG-TERM WATER ISSUES

To address the long-term water supply deficit, new or expanded water sources, increased raw water appropriation, and upgraded treatment and distribution systems will be needed. In addition, the following projects in the City's Capital Improvement Program can improve overall system efficiency and narrow the gap between buildout demand and supply.

Exhibit 49
Hagerstown Water System Supply and Ultimate Demand
(Assumes Maximum Development in City and MRGA)

All u	mits in EDU (except where specified) A	verage Daily Flow
1.	Available Water Supplies ²¹	78,750
2.	Existing water demand (average daily demand)	0^{22} 65,000
3.	Potential new water demand in City and MRG.	A 25,270
4.	New demand from towns and Annexation	
	Policy approvals. ²³	4,467
5.	Total potential water demand in MRGA (2+3)	94,737
6.	Net available water supply (4 - 1)	(16,237)
7.	Net available water supply (MGD)	(3.2)

²² Existing average daily demand is 13 MGD, at 200 gpd per EDU

²¹ Existing supply is 15.75 MGD, at 200 gpd per EDU.

²³ Includes total water commitments outside of the MRGA (1,712 EDU), and 2,755 of demand from Towns, per Exhibit 48.

- Additional Supplies. New supplies could come in the form of increased withdrawals from the Potomac River (requiring an increased appropriation permit from MDE), or from other sources, such as groundwater. The City should work with MDE to determine the best option for new or expanded water sources.
- General Repairs at the Edgemont Reservoir and in other locations to address leaks and reduce water loss. Cutting system water loss in half would reduce the buildout water deficit shown in Exhibit 49 by one-third.
- Source Water Protection (Watershed Improvements and Reservoir Improvements). Stream restoration and watershed enhancement projects are planned to reduce the amount of sediment entering the Edgemont Reservoir, making this a more viable and productive year-round source.
- Storage. Replacement of the West End Reservoir (near Hellane Park) with water storage tanks Related improvements began in 2007, with Phase II beginning in June 2009. The new concrete tanks and removal of the existing reservoir are consistent with the Safe Drinking Water Act.
- **Distribution System.** Transmission mains from the WTP will be replaced with larger mains to address system demand deficiencies. Additional planned water system projects will address deteriorating pipe, system pressure, and water quality. New meters are being installed to provide more efficient and accurate service.

WATER CONSERVATION

Water conservation is a low-cost option for extending the life of existing water supplies. The Maryland Water Conservation Plumbing

Fixtures Act (MWCPFA) requires that new plumbing fixtures sold or installed as part of new construction are designed to conserve water. Future efforts to upgrade the water distribution system will contribute to water conservation by reducing water loss due to leaks.

Beyond these regulatory requirements and major capital projects, the City could also proactively promote water conservation through a concerted

public education program, and by coordinating with the State to seek funding for upgrades to appliances and water fixtures. Careful planning of stormwater management techniques, as well as the location and species of landscaping on City streets can help to reduce or eliminate outdoor watering needs, thus reducing Citywide water demand.

Water Resources Policies

Policy 4-1. Hagerstown will use water and wastewater policy to support this Comprehensive Plan's growth management goals. The 2008 Annexation Policy will continue to guide the provision of water and wastewater service outside of Hagerstown's corporate boundaries. The City will only provide new or expanded water and wastewater services to properties that annex into the City or that enter into preannexation agreements with the City, except as specifically exempted in the 2008 Annexation Policy., and will need to be updated to reflect changes in this Comprehensive Plan. The City will only provide new or expanded water and wastewater services to properties that annex into the city or that enter into preannexation agreements with the City, except as specifically exempted in the 2008 Annexation Policy.²⁴

Policy 4-2. Hagerstown will continue to coordinate wastewater and water planning and implementation with Washington County.

Wastewater:

continued Through cooperation with Washington County, wastewater capacity will be available for all new development in the City of Hagerstown and the Medium Range Growth Area, as well as other priority areas within the Long Range Growth Area.25 continued cooperation with Through Washington County and the towns of Williamsport, Smithsburg, and Funkstown, water capacity will be available for all new

Water:

²⁴ The exemption states that Hagerstown cannot require annexation or the execution of a preannexation contract as a condition for provision of wastewater service within the Consolidated GSA's Designated Area. ²⁵ This policy modifies the 2004 Annexation Policy's goal of "becoming the full provider of municipal services" in the UGA.

development in the City of Hagerstown and the Medium Range Growth Area, as well as other priority areas within the Long Range Growth Area.

- Policy 4-3. Hagerstown will maximize the capacity of its wastewater system.
- **Policy 4-4.** This Comprehensive Plan established tiered priority areas for new or expanded water and wastewater service, as delineated on Figure 4-1 and defined here:

Priority 1. Infill and redevelopment within the 2008 Corporate Boundary. Highest Priority for new or expanded water and wastewater allocation.

Priority 2. Medium-Range Growth Area. Second priority for new or expanded water and wastewater service. 26

Priority 3. Long-Range Growth Area. Existing service will be maintained. New service is not anticipated before 2028, but may be considered for employment centers, in support of City and County economic development and other goals and policies in this Plan.

No water or wastewater service will be provided outside of the Long-Range Growth Area except for health and safety reasons. Any existing or future water lines extending outside of the Long-Range Growth Area shall be considered restricted and no additional connections will be permitted, except for health and safety reasons.

- **Policy 4-5.** Hagerstown will ensure adequate future water system supply by continuing to monitor system capacity and water use.
- Policy 4-6. The City will continue to set aside at least 15 percent of its annual wastewater allocation for new development to be used for non-residential development, with priority given to Business-Employment uses (see Chapter 2) and industrial uses.
- Policy 4-7. The City will continue the existing rate structure and other policies that encourage water conservation.
- Policy 4-8. The City will pursue expanded interjurisdictional coordination with the County and municipal utilities within the Hagerstown

²⁶ Some service in the MRGA may be provided by Washington County, especially in the area between I-81, I-70, MD-632, and the 2008 Corporate Boundaries.

- UGA, focusing on improving operational efficiencies by merging overlapping functions such as laboratories, administration or training, among other things.
- **Policy 4-9.** Implement practices that are protective of the Edgemont watershed and water quality.
- Article 4-1. Offer to develop cooperative agreements with Washington County on appropriate situations and conditions for the provision of water and/or wastewater services outside the Medium Growth Area. In particular, discuss extension of services to economic development target areas at the Airport and Friendship Technology Park, as well as selected residential areas.
- Article 4-2. Reduce Inflow and Infiltration into the sewage collection system by continuing ongoing repair efforts. Consider providing incentives for private land developers to perform I/I reductions.
- Article 4-3. Renew the Flow Transfer Agreement with Washington County and remove the "sunset" clause to make flow transfers permanent. Work with Washington County to fully implement the Flow Transfer Agreement to transfer sewage from City wastewater lines to the County's Conococheague WWTP.
- **Article 4-4.** Investigate alternate ways to manage wastewater capacity, such as:
 - (a) Participation in the state's nutrient trading policy, specifically when extending wastewater service to homes and businesses on individual septic systems. The City also may be able to "sell" excess capacity, given the findings of Tables 4-1 and 4-5.
 - (b) Implementation of more efficient treatment technology as it becomes available.
 - (c) Re-assignment of allocation from vacant and underutilized commercial and industrial property when they redevelop. This could include recoup of some "turned off accounts."
 - (d) Exploration of reuse of grey water from the Hagerstown Wastewater Treatment Plant where feasible such as for watering of golf courses or athletic fields, or for industrial processes as a means of conserving water resources and reducing nutrient discharges to Antietam Creek.
- Article 4-5. As part of future updates to the Comprehensive Plan, revise the data, policies, and implementation actions in this Water

- Resources Element to reflect TMDLs established by the US EPA and MDE.
- Article 4-6. Continue to update the Hydraulic Model to determine water system dynamics and deficiencies. Use the model to guide decisions as they pertain to system improvements including, but not limited to, system storage requirements, pumping station upgrades, and distribution system improvements.
- Article 4-7. Continue to monitor produced water and billed water to reduce the system water loss to 10 percent or less, per MDE policy.
- Article 4-8. Continue to monitor average day and peak day water usage to better predict when it is appropriate to approach MDE for an amendment to the current water allocation of 15 MGD from the Potomac River.
- **Article 4-9.** Implement practices that are protective of the Edgemont watershed and water quality.
- Article 4-10. Offer to develop cooperative agreements with Washington County on appropriate situations and conditions for the provision of water and/or wastewater services outside of the Medium Range Growth Area. In particular, discuss extension of services to economic development target areas at the Airport and Friendship Technology Park, as well as selected residential areas.
- Article 4-11. Working with Washington County, identify and prioritize the correction of stormwater "hotspots" in the City and MRGA. Identify and use state, federal, and other funding sources to implement stormwater retrofits in these areas.
- **Action 4-12.** Advocate for more flexible state stormwater management standards for redevelopment properties and multi-year phased developments.

<u>Note:</u> The primary source of the information contained in the Water Resources Element of the City was furnished by the City of Hagerstown Public Utilities, and the City of Hagerstown Planning Department.

CURRENT PROJECTS

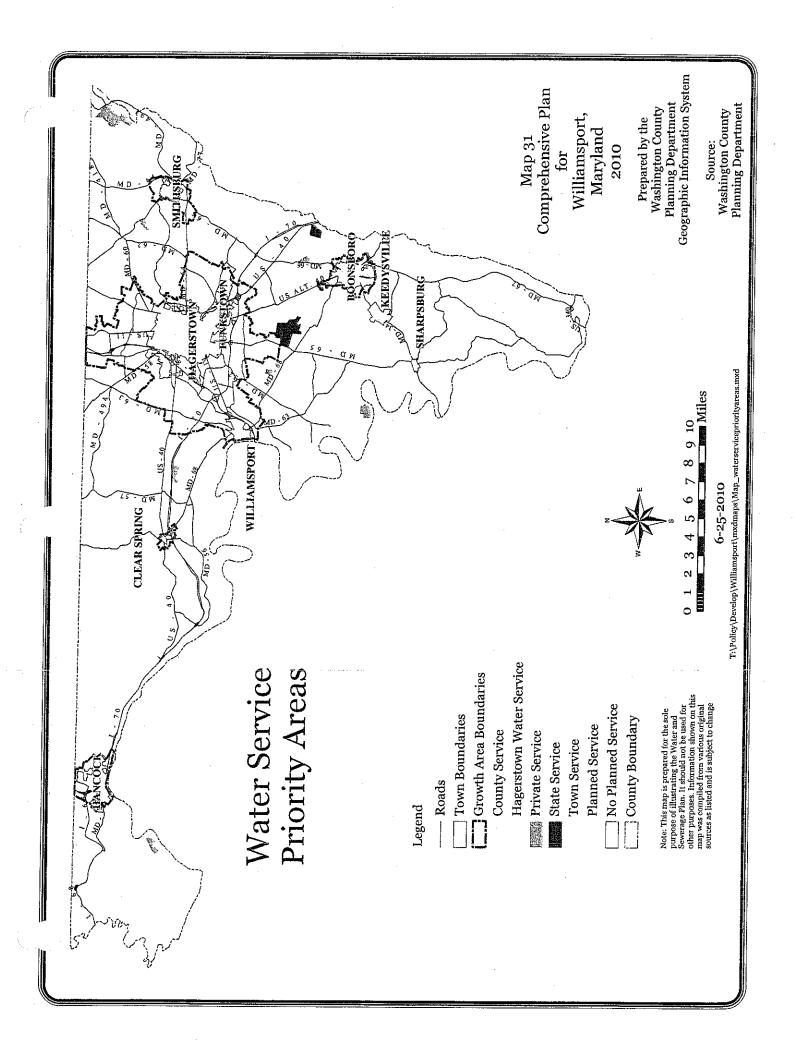
The Town of Williamsport has deemed it necessary and advisable to continue to endeavor to upgrade and update the water distribution system and maintain same in a good state of repair. Recently the Town has deemed

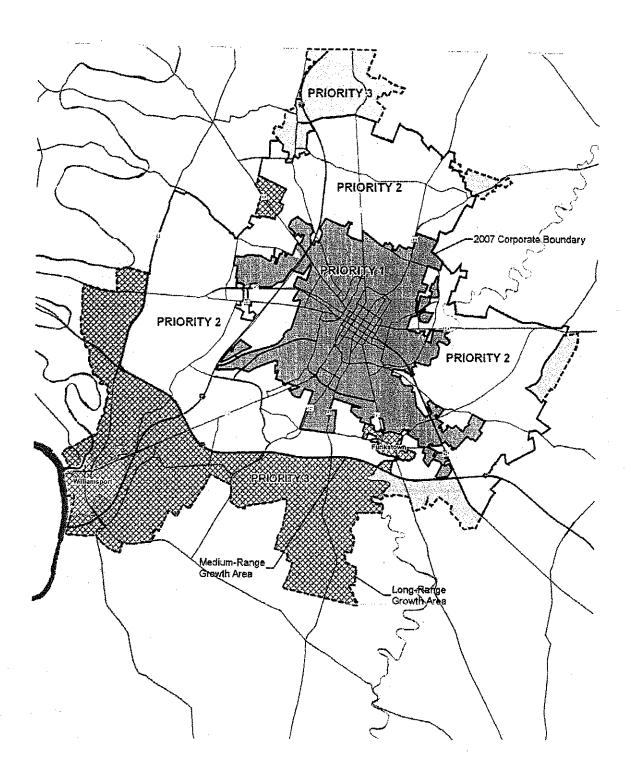
it necessary to update and refurbish meters for the water system. As a result, the Water Quality Financing Administration (the Administration) is providing financial assistance in the form of a grant to the Town of Williamsport in an amount of up of \$998,400.00 using ARRA funds under CFDA No. 66.648 for the Williamsport Water Infrastructure (water meter portion) Project (the project) more particularly described as the replacement of seven hundred (700) residential water meters, meter boxes and lids. This work is presently being accomplished and/or has been accomplished for the Town of Williamsport. The total construction and engineering cost is shown on the attached Project Breakdown by Thrasher Engineering. The new meter system is a state of the art system and should facilitate and make the monitoring of water usage more accurate and efficient and cost effective.

SUMMARY

The goal of the Town is to maintain the infrastructure in the highest state of efficiency as possible in order to service its customers with an uninterrupted potable water supply at all times. Note:

The following Maps are intended to graphically clarify and demonstrate the information set forth in the preceding text in this Chapter.





City of Hagerstown Comprehensive Plan Figure 4-2: Water and Wastewater Priority Areas



Map 31A Comprehensive Plan for Williamsport, Maryland 2010

Legend

Priority Areas

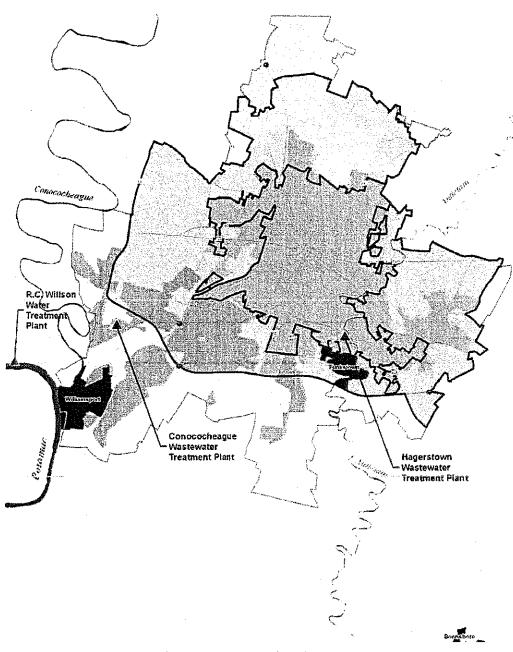
S Priority 1

Priority 3

Priority 2

New or expanded sewer service denied, except for health and safety reasons.

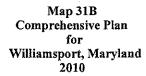
Note: Funkstown and Williamsport purchase water from Hagerstown.



City of Hagerstown Comprehensive Plan

Figure 4-1: 2005 Water and Wastewater Service Areas





Legend

Area served by Cay server bile, and Washawater Treatment Plant

Free served by County server times and Wasterwater Treatment Frant

sed by Sount, sever thes and Say Vasdeader Treatment Plant

